

Notice of Allowability

Application No.

10/675,402

Examiner

Paul A. Wartalowicz

Applicant(s)

ZHAO ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/6/06.
2. ☒ The allowed claim(s) is/are 12-15.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 050906.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Examiner's Amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Shawn McClintic on May 9, 2006.

The application has been amended as follows: In claim 12, line 3 after "compound is" please delete "AlLi, Al₂Li₃, Al₄Li₉, Al₃Mg₂"; in line 4 of the same claim, please delete "Al₁₂Mg₁₇, AlB₁₂"; in line 4 of the same claim, after "GeK₃" please delete "GeLi₃, Ge₅Li₂₂, Mg₂Ge"; in line 5 of the same claim, please delete "aluminum doped Ge₄K, aluminum doped GeK, aluminum doped GeK₃, aluminum doped GeLi₃"; in line 6 of the same claim, please delete "aluminum doped Ge₅Li₂₂, aluminum doped Mg₂Ge, aluminum doped Ge₄Na"; in line 7 of the same claim, please delete "aluminum doped GeNa, aluminum doped GeNa₃".

Allowable Subject Matter

Claims 12-15 allowed.

The following is an examiner's statement of reasons for allowance: The prior art of record does not teach or suggest a method of recovering hydrogen comprising contacting at least one compound in hydrogen to form a nitrogen free hydrogenated compound: wherein the compound is Ge₄K, GeK, GeK₃, Ge₄Na, GeNa, GeNa₃ or a

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

U.S. 6030724 teach a method of recovering hydrogen comprising contacting at least one compound in hydrogen to form a nitrogen-free hydrogenated compound; wherein the compound is Al_2Li_3 , Al_4Li_9 , AlLi , $\text{Al}_{12}\text{Mg}_{17}$, Al_3Mg_2 , Mg_2Ge , GeLi_3 , aluminum doped GeLi_3 , aluminum doped $\text{Ge}_5\text{Li}_{22}$, aluminum doped Mg_2Ge and heating the hydrogenated compound to recover the hydrogen.

U.S. 6887511 teach a method of recovering hydrogen comprising contacting at least one compound in hydrogen to form a nitrogen-free hydrogenated compound; wherein the compound is $\text{Ge}_5\text{Li}_{22}$ and heating the hydrogenated compound to recover the hydrogen.

U.S. 4308248 teach a method of recovering hydrogen comprising contacting at least one compound in hydrogen to form a nitrogen-free hydrogenated compound; wherein the compound is aluminum doped Ge_4K , aluminum doped GeK , aluminum doped GeK_3 , aluminum doped Ge_4Na , aluminum doped GeNa , aluminum doped GeNa_3 , and heating the hydrogenated compound to recover the hydrogen.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul A. Wartalowicz whose telephone number is (571)

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272-5957. The examiner can normally be reached on 8:30-6 M-Th and 8:30-5 on Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul Wartalowicz
May 9, 2006



COLLEEN P. COOKE
PRIMARY EXAMINER